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10/679,903	10/06/2003	Paul J. Richter	58229US002	3798

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EXAMINER	
LIANG, REGINA	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/679,903	RICHTER ET AL.	
	Examiner	Art Unit	
	Regina Liang	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10-30-03, 6-27-05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 44 is rejected under 35 U.S.C. 102(b) as being anticipated by Teterwak (US 5,902,967).

As to claim 44, Teterwak discloses a method of determining a touch location comprising the steps of defining a touch sensitive area (digitizer panel in Figs. 1 and 2) comprising an optically transparent self-supporting glass layer (glass layer 24) disposed on an electrically continuous optically transparent conductive film (active ITO layer 28); detecting a signal generated in response to a capacitive coupling between the conductive film and a touch input applied to the glass, and using the detected signal to determine the touch location (col. 4, lines 1-36 for example).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak.

Teterwak discloses a capacitive touch sensor (digitizing panel 14) comprising an electrically continuous optically transparent conductive film (active ITO layer 28) covering a touch sensitive area; the touch sensor being capable of detecting tow or more distinct touch locations within the touch sensitive area; an optically transparent self-supporting glass layer (glass layer 24) disposed on the conductive film (28); a controller (corner wires 20a-20c, controller 16, CPU 18) configured to detect a signal induced by capacitive coupling between the conductive film and a touch input applied to the glass layer, the signal being detected at a plurality of positions on the conductive film and used to determine the touch location of the applied touch input (col. 4, lines 1-36 for example).

Teterwak discloses the claimed invention except for the thickness of glass layer is in the range of 0.1-2.0 mm. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the glass layer of Teterwak to have the thickness as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. Claims 1, 9-11, 15-17, 21, 22, 27-31, 33-35, 39, 41-43, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak in view of Ahn (US 6,707,450).

As to claims 1, 41, 43, Teterwak discloses a capacitive touch sensor (digitizing panel 14) comprising an electrically continuous optically transparent conductive film (active ITO layer 28) covering a touch sensitive area; an optically transparent self-supporting glass layer (glass layer

24) disposed on the conductive film (28); an electrical circuitry (corner wires 20a-20c) configured to detect a signal induced by capacitive coupling between the conductive film and a touch input applied to the glass layer, the signal being used to determine the touch location (col. 4, lines 1-36 for example).

Teterwak does not explicitly disclose the glass layer is a flexible glass layer. However, Fig. 1 of Ahn teaches a touch panel having an upper substrate 20 is made of a thin glass sheet, which is flexible (col. 1, lines 55-56). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the glass layer of Teterwak to be a flexible glass layer since this allows the touch sensor to be used to conform a curved display.

As to claim 9, Teterwak does not explicitly disclose the touch panel including a lower substrate and the conductive film is disposed on the substrate. However, Fig. 1 and 2 of Ahn teaches the touch panel is provided on a LCD so as to provide a touch panel display device, and Ahn teaches the touch panel including a lower substrate 30, and the conductive film (22) is disposed on the lower substrate 23. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch panel of Teterwak to have a lower substrate so as to provide a flat panel display with a touch panel integrally formed therein.

As to claim 10, Teterwak teaches the glass layer (24) covers at least a portion of the electrical circuitry (portion of corner wires 20A-20C are located inside corners of the conductive film).

As to claim 11, Teterwak teaches the touch sensor comprising electronics (controller 16, CPU 18) adapted to receive the detected signal to determine the touch location.

As to claims 15-17, 42, Teterwak as modified by Ahn discloses the claimed invention except for the thickness of glass layer is in the range of 0.1-1.5 mm (claim 15), 0.3-1.5 mm (claims 16, 42), or 0.5-1.0 mm (claim 17). However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Teterwak as modified by Ahn to have the thickness of the glass layer as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

As to claims 21, 22, Teterwak teaches the conductive film comprising metal oxide or ITO (col. 3, lines 40-41).

As to claims 27, 45, Teterwak teaches the touch sensor is combined with a display viewable through the touch sensor.

As to claims 28-31, Teterwak teaches the touch sensor comprising a touch implement (pen or stylus, col. 3, lines 59), and the touch implement is coupled to the touch sensor via electrically conductive wires (e.g., wires 20a-20d).

As to claim 33, note the discussion of claims 1 and 9 above.

As to claim 34, Fig. 2 of Teterwak teaches the conductive film (28) is in contact with the flexible glass (24).

As to claim 35, Fig. 1 of Ahn teaches the conductive film (22) is in contact with the substrate (23).

As to claim 39, Teterwak teaches the device comprising a controller (controller 16, CPU 18) to receive the detected signal to determine the touch location.

6. Claims 2-4, 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view of Eichelberger et al (US 4,290,052 hereinafter Eichelberger).

As to claims 2, 36, Teterwak as modified by Ahn teaches the upper substrate and the lower substrate are structurally bonded by an adhesive (col. 1, lines 49-51 of Ahn). Teterwak as modified by Ahn does not explicitly disclose a bonding layer for bonding the glass layer (upper substrate) to the conductive film. However, Fig. 1a of Eichelberger teaches a capacitive touch panel having a adhesive layer (20) for bonding the glass layer (11) to the conductive film (sensor layer 16, 18). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch panel of Teterwak as modified by Ahn to have a bonding layer (adhesive layer) as taught by Eichelberger for attaching and bonding the glass layer to the conductive film.

As to claims 3, 38, Eichelberger teaches the bonding layer is an adhesive.

As to claim 4, Teterwak as modified does not disclose a barrier layer disposed between the bonding layer and the conductive film. However, Teterwak teaches the touch panel having a layer 30 attached to the underside of the conductive film to prevent the glass layer from shattering (col. 3, lines 47-49). Thus, in view of Teterwak's teaching, and in order to protect the conductive film against potential damage from the bonding layer or from the glass layer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch panel of Teterwak as modified by Ahn and Eichelberger to have a barrier layer disposed between the bounding layer and the conductive film as claimed.

As to claim 37, Teterwak as modified by Ahn and Eichelberger does not disclose the bonding layer for bonding the conductive film to the substrate (lower substrate). However, However, Fig. 1a of Eichelberger teaches a touch panel having an adhesive layer (20) for bonding the glass layer (11) to the conductive film (sensor layer 16, 18). Thus, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to modify the touch panel of Teterwak as modified by Ahn to have a bonding layer (adhesive layer) as claimed for bonding the conductive film to the lower substrate.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view of Maeda et al (US 6,310,614 hereinafter Maeda).

As to claim 5, Teterwak as modified by Ahn does not disclose the bonding layer is UV curable. However, Maeda teaches the bonding layer comprising an UV-curing pressure sensitive adhesive (col. 6, lines 55-67). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bonding layer of Teterwak as modified by Ahn to be UV curable since this adhesive exhibits elasticity and tacking properties (col. 6, lines 57-58 of Maeda).

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn and Maeda as applied to claim 5 above, and further in view of Saiki et al (US 6,697,132).

As to claim 6, Teterwak as modified by Ahn and Maeda does not disclose the bonding layer comprises a UV absorber. However, Saiki teaches it is well known in the art that an

adhesive comprises a UV absorber (col. 6, lines 59-62). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bonding layer of Teterwak as modified by Ahn and Maeda to include UV absorbing capability since this enables easy preparation of a trigger for peeling (col. 2, lines 49-50 of Saiki).

9. Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view Pepper, Jr (US 4,293,734).

As to claim 7, Teterwak as modified by Ahn does not disclose the touch sensor comprising a field linearization pattern disposed along the perimeter of the touch sensitive area. However, Fig. 3 of Pepper, Jr. teaches a touch sensor comprising a field linearization pattern (conductive segments 101) disposed along the perimeter of the touch sensitive area (100). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch sensor of Teterwak as modified by Ahn to comprise a field linearization pattern as taught by Pepper, Jr. since this has improved linearity and provides improvements in touch panel system and methods (col. 1, lines 47-48, 63-64 of Pepper, Jr.).

As to claim 8, Fig. 1 of Teterwak teaches the glass layer covers the conductive film (resistive layer), and Fig. 3 of Pepper, Jr. teaches the linearization pattern are located on the resistive surface (100) of the resistive layer, thus, Teterwak as modified by Ahn and Pepper, Jr. teaches the flexible glass layer covers at least a portion of the linearization pattern as claimed.

10. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view Hikida et al (US 6,549,195).

Teterwak as modified by Ahn does not explicitly disclose the resistance value of the conductive film is in a range of 100-50,000 Ohms/Square (claim 12), 200-10,000 Ohms/Square (claim 13), or 500-4,000 Ohms/Square (claim 14). However, Hikada teaches the resistance value of the conductive film (212, 222 of touch panel 20) is in a range of 100-1000 Ohms/Square, which is within the range of 100-50,000 Ohms/Square, 200-10,000 Ohms/Square, or 500-4,000 Ohms/Square. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Teterwak as modified by Ahn to have the sheet resistance of conductive film as claimed so as to provide an improved touch panel and to detect the input position actually.

11. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view Hashimoto et al (US 6,380,497 hereinafter Hashimoto).

As to claims 18, 19, Teterwak as modified by Ahn does not disclose the glass layer comprising a soda lime glass (claim 18), or a borosilicate glass (claim 19). However, Hashimoto teaches a glass substrate comprising a soda lime glass or a borosilicate glass (col. 7, lines 10-11). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the glass layer of Teterwak as modified by Ahn to comprising a soda lime glass or a borosilicate glass as taught by Hashimoto so as to provide a touch panel including glass of superior strength thereby providing a high-strength touch panel disposed on screen of LCD (col. 1, lines 5-6 of Hashimoto).

As to claim 20, col. 7, lines 16-21 of Hashimoto teaches the conductive film comprises a metal. Thus, Teterwak as modified by Ahn and Hashimoto would have a metal conductive film.

12. Claims 23, 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view Getz et al (US 6,627,918 hereinafter Getz).

Teterwak as modified by Ahn does not explicitly disclose the conductive film comprising Tin Antimony Oxide (claim 23) or fluorine doped tin oxide (claim 24). However, Getz teaches a touch panel comprising conductive film, wherein the conductive film comprising Tin Antimony Oxide or fluorine doped tin oxide (col.. 2, lines 63-65). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the conductive film of Teterwak as modified by Ahn to comprise Tin Antimony Oxide or fluorine doped tin oxide to improve the touch panel device.

13. Claims 25, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view Yoshikawa et al (US 6,744,425).

Teterwak as modified by Ahn does not disclose the conductive film comprising organic conductor or conductive polymer. However, Yoshikawa teaches a conductive film (the conductive film includes polymer film 4, layer 9 and conductive film 5, see col. 3, lines 19-21) having organic material or conductive polymer (col. 7, lines 40-45). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the conductive film of Teterwak as modified by Ahn to have organic conductor or conductive

polymer as taught by Yoshikawa since this material generally has good transparency, and it is suitable for the transparent electroconductive film which is required to have high transparency (col. 3, lines 45-47 of Yoshikawa).

14. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teterwak and Ahn as applied to claim 1 above, and further in view Crooks et al (US 5,285,506 hereinafter Crooks).

As to claim 32, Teterwak as modified by Ahn does not disclose a signature capture device comprising the touch sensor. However, Crooks teaches the signature is captured in real time by a device such as a stylus-operated digitizer (touch sensor). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch sensor Teterwak as modified by Ahn to be used in a signature capture device so as to provide a signature capture device in which the signature is captured in real time.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Regina Liang

Primary Examiner

Art Unit 2674

3/17/06